

N61165.AR.004001
CNC CHARLESTON
5090.3a

COMPLETION REPORT INTERIM/STABILIZATION MEASURE FOR SOLID WASTE
MANAGEMENT UNIT 11 (SWMU11) WITH TRANSMITTAL CNC CHARLESTON SC
2/2/1999
CNC CHARLESTON



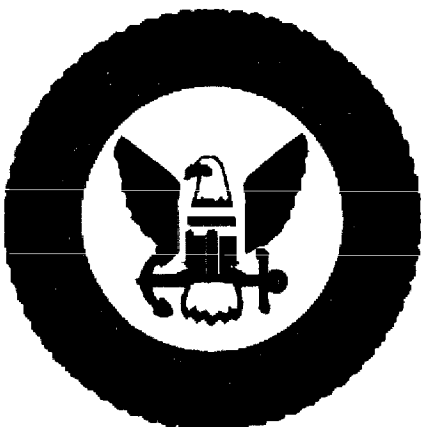
COMPLETION REPORT

INTERIM/STABILIZATION MEASURE FOR

SWMU 11

NAVAL BASE CHARLESTON

CHARLESTON, SC



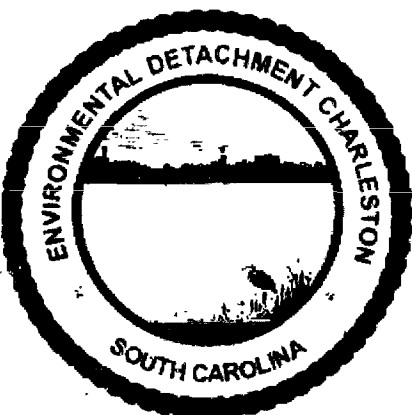
Prepared for:

DEPARTMENT OF THE NAVY

SOUTHERN DIVISION

NAVAL FACILITIES ENGINEERING COMMAND

CHARLESTON SC



Prepared by:

Supervisor of Shipbuilding, Conversion and Repair,

USN, (SUPSHIP) Portsmouth Va.,

Environmental Detachment Charleston, S.C.

1899 North Hobson Ave.

North Charleston, SC 29405-2106

February 2, 1999



DEPARTMENT OF THE NAVY
SUPERVISOR OF SHIPBUILDING, CONVERSION AND REPAIR, USN
PORTSMOUTH, VIRGINIA, ENVIRONMENTAL DETACHMENT CHARLESTON
1899 NORTH HOBSON AVENUE, BUILDING 30
NORTH CHARLESTON, SOUTH CAROLINA 29405-2106

FEB 02 1991

IN REPLY REFER TO:

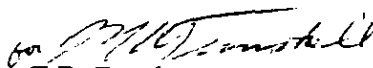
Ser: 079

Mr. G. Randall Thompson, Director
Division of Hazardous and Infectious Waste Management
Bureau of Solid and Hazardous Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia SC 29201

Dear Mr. Thompson:

The enclosed interim measure completion report for Solid Waste Management Unit (SWMU) 11 is submitted to fulfill the requirement of Permit Condition IV.D.6 for Permit Number SCO 170 022 560. If the Department of Health and Environmental Control should have any questions, please contact David Dodds of Southern Division Naval Facilities Engineering Command (NAVFAC) at (803) 820-5578.

Sincerely,


E.R. Dearhart
Director

Encl:

(1) SWMU 11 Completion Report

Copy to:

SCDHEC (Mr. Tapia, Mr. Bergstrand)
USEPA (Mr. Spariosu)
CSO Naval Base Charleston (LCDR Rose)
NAVFAC (Mr. Dodds)
EA&H (Ms. Maddux)

COMPLETION REPORT

Interim/Stabilization Measure for
SWMU 11
Charleston Naval Complex, Charleston, SC

Engineering Branch Head:

J. K. Tunstall

Date: 2-1-99

Prepared By:

Heather A. McNeal

Date: 2-1-99

REPORT GENERATED BY:
ENVIRONMENTAL DETACHMENT CHARLESTON
1899 NORTH HOBSON AVENUE
NORTH CHARLESTON, SC 29405



COMPLETION REPORT

INTERIM/STABILIZATION MEASURE FOR

SWMU 11

NAVAL BASE CHARLESTON

CHARLESTON, SC



Prepared for:

DEPARTMENT OF THE NAVY

SOUTHERN DIVISION

NAVAL FACILITIES ENGINEERING COMMAND

CHARLESTON SC



Prepared by:

Supervisor of Shipbuilding, Conversion and Repair,

USN, (SUPSHIP) Portsmouth Va.,

Environmental Detachment Charleston, S.C.

1899 North Hobson Ave.

North Charleston, SC 29405-2106

February 2, 1999

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ACRONYMS, ABBREVIATIONS and SYMBOL

AOC	Area of Concern
BLS	Below Land Surface
CMS	Corrective Measures Study
DERP	Defense Environmental Restoration Program
DET	Environmental Detachment Charleston
DON	Department of the Navy
IM	Interim Measure
IR	Installation Restoration
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
SARA	Superfund Amendments and Reauthorization Act
SCDHEC	South Carolina Department of Health and Environmental Control
SOUTHDIV	Southern Division Naval Facilities Engineering Command
SUPSHIP	Supervisor of Shipbuilding, Conversion and Repair, USN
SWMU	Solid Waste Management Unit
USN	United States Navy

1. INTRODUCTION

1.1 INSTALLATION RESTORATION PROGRAM The purpose of the Department of the Navy (DON) Installation Restoration (IR) Program is to identify, assess, characterize and clean up or control contamination from past hazardous waste disposal operations and hazardous material spills at Navy and Marine Corps activities. The Defense Environmental Restoration Program (DERP) is codified in the Superfund Amendments and Reauthorization Act (SARA) Section 211 (10 USC 2701). The IR Program is a component of DERP.

1.1.1 Naval Base Charleston IR Program At Naval Base Charleston, a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) was prepared which divided the Naval Base into zones and identified Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) within each zone. The RFA evaluated each SWMU and AOC and determined which sites required further investigation. Based on the RFA, a RCRA Facility Investigation (RFI) Work Plan has been or is being prepared for each zone containing SWMUs and AOCs requiring further investigation. On completion of the RFI for each Zone, a RFI report will be prepared for that zone. The RFI reports will identify SWMUs and AOCs containing wastes requiring remediation. Eventually, Corrective Measures Studies (CMSs) will be prepared to determine the best means of remediating each site.

1.2 INTERIM MEASURES Interim Measures (IM) performed as part of the IR Program are intended to eliminate sources of environmental contamination or limit the spread of environmental contaminants prior to the completion of the RFI CMS.

1.3 SWMU 11 SWMU 11 is the site of the former caustic pond near the interchange formed by the junction of Bainbridge Avenue and Viaduct Road, located in Zone G of the former Naval Base Charleston. The pond was used between the early 1940's and the early 1970's for the disposal of calcium hydroxide (lime) sludge generated as a byproduct of acetylene gas production. The pond was abandoned rather than closed, and no lime was removed when acetylene production ceased.

The site is an open space landscaped with grass. Calcium hydroxide sludge was visible in the unfilled ditch area of the drainage culvert and in the culvert piping draining to the marsh located in the southwest corner of SWMU 11. See Figure 1 for site location.

Direct Push Technology (DPT) samples taken by Ensafé during the Zone G RCRA Facility Investigation, February 1998, found a layer of calcium hydroxide sludge one foot thick at a depth of 2' to 4'. Groundwater samples collected from monitoring wells installed on site indicated a neutral pH.

To further delineate the vertical and horizontal extent of the former pond, Environmental Detachment Charleston (DET) conducted trenching operations which involved the use of a backhoe to trench a two foot wide area, removing approximately six inches of soil at a time. The average depth at which the lime layer was encountered was 2 – 2 1/2 feet below ground surface. See Figure 2 for locations of trenches and depths the lime layer was encountered. The DET also collected surface water samples from several locations in the ditch that surrounds the perimeter of the site. In the low lying area near the drainage culvert, where the lime sludge is visible, and unagitated water sample indicated a pH of 11.65 and an agitated water sample a pH of 12.05. See Figure 2 for locations of pH readings.

1.4 SWMU 11 INTERIM MEASURE During the interval between the RFI and the completion of the CMS, it was decided by Southern Division Naval Facilities Engineering Command (SOUTHDIV) that an IM would be performed by Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP), United States Navy (USN), Portsmouth Va. Environmental Detachment Charleston (SPORTENVDETHASN). The scope of IM was limited to excavation and disposal of soil in the area of the ditch and drainage culvert where the calcium hydroxide was visible due to erosion. It was not the intent of this IM to address removal of the entire calcium hydroxide layer. This IM is consistent with the ultimate cleanup of SWMU 11 and is not intended to circumvent the public participation process inherent within environmental cleanup under RCRA authority.

1.4.1 SWMU 11 INTERIM MEASURE EXECUTION SUMMARY The execution of this IM consisted of an excavation at the site. The Work Plan required the excavation of calcium

hydroxide contaminated soil from a 30' x 20' area, at a depth of 5 '. See Appendix D for site pictures. The excavation began in November of 1997. Soil removed from the site was characterized as non-hazardous and disposed of in a certified Subtitle D landfill. No calcium hydroxide sludge was visible after excavation and subsequent fill.

1.4.2 SWMU 11 INTERIM MEASURE CONCLUSION

This Interim Measure effectively removed contaminated soil from land surface to approximately 5' below land surface (BLS) in the area along the ditch line and culvert where the calcium hydroxide layer was visible. This site will be monitored for visible evidence of calcium hydroxide migration, on a monthly basis, for a period of six months.

2. INTERIM MEASURE EXECUTION

2.1 ACTIONS REQUIRED BY INTERIM MEASURE WORK PLAN

- Removal and disposal of approximately 260 cubic yards of calcium hydroxide contaminated soil at SWMU 11.

2.2 OBSERVATIONS NOTED

2.2.1 Soil Conditions The land surface to approximately 5' below ground surface was made up of fine-grained, sandy clay soils interspersed with calcium hydroxide sludge layers. Some construction debris, i.e., concrete and lumber was present between 2' and 4'.

2.2.2 Groundwater Groundwater was encountered at approximately 4 feet.

2.3 PLAN MODIFICATIONS AND JUSTIFICATION. None.

3. INTERIM MEASURE OUTCOME

3.1 SITE CONDITIONS FOLLOWING COMPLETION OF WORK. Following completion of all site work on 24 November 1998, the DET had removed 260 cubic yards of calcium hydroxide contaminated soil. The site was back-filled with 4'6" of high end sand clay compacted every 6", covered with topsoil to ground level, graded and seeded. Site photographs are included in Appendix D.

4. SAMPLING

4.1 SAMPLING EVOLUTIONS AND RESULTS

4.1.1 Field Sampling No field sampling was performed

4.1.2 Confirmation Sampling No conformation sampling was performed.

5. WASTE GENERATION

5.1 HAZARDOUS/POTENTIALLY HAZARDOUS WASTE

No hazardous waste was generated during this interim measure.

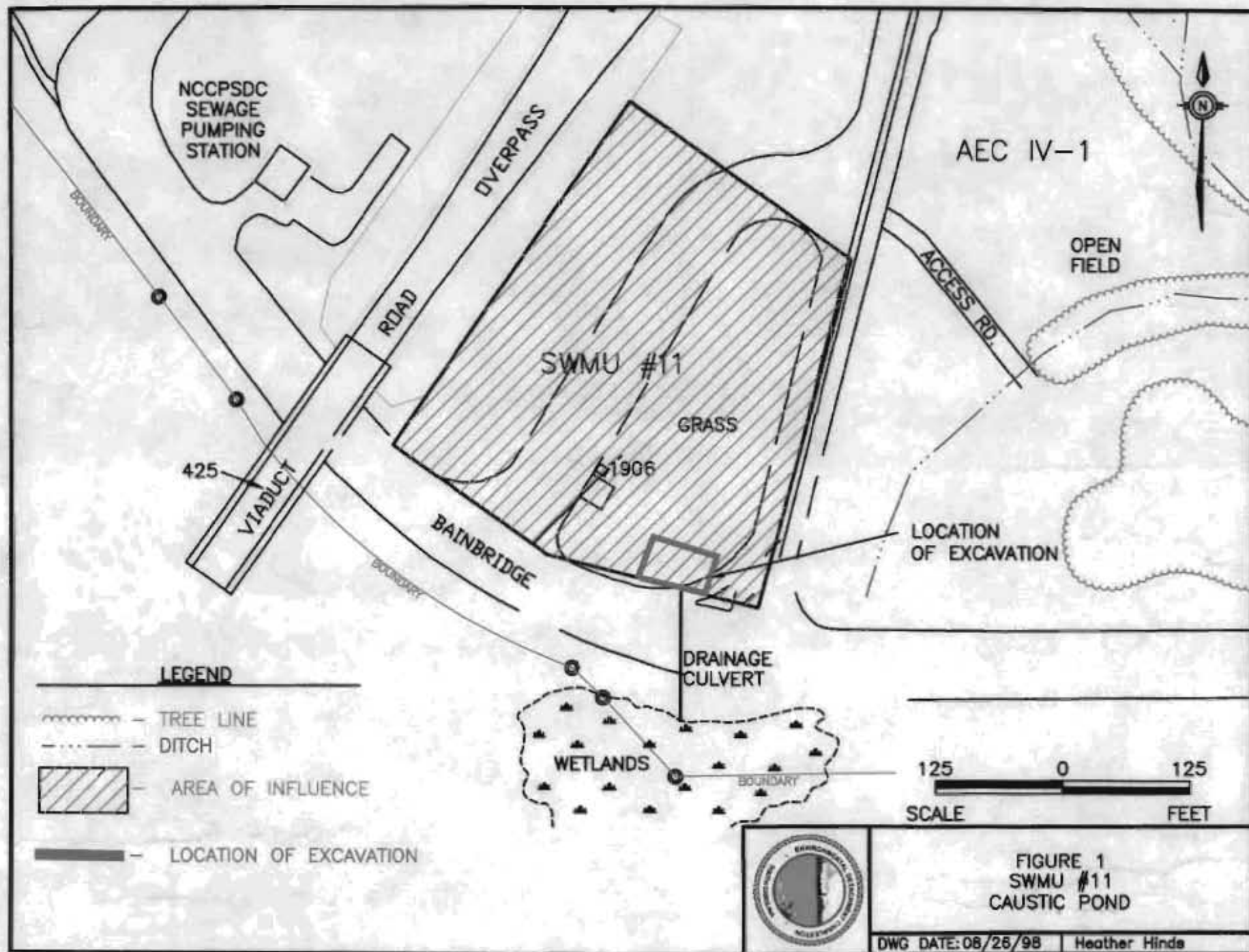
5.2 NON-HAZARDOUS WASTE

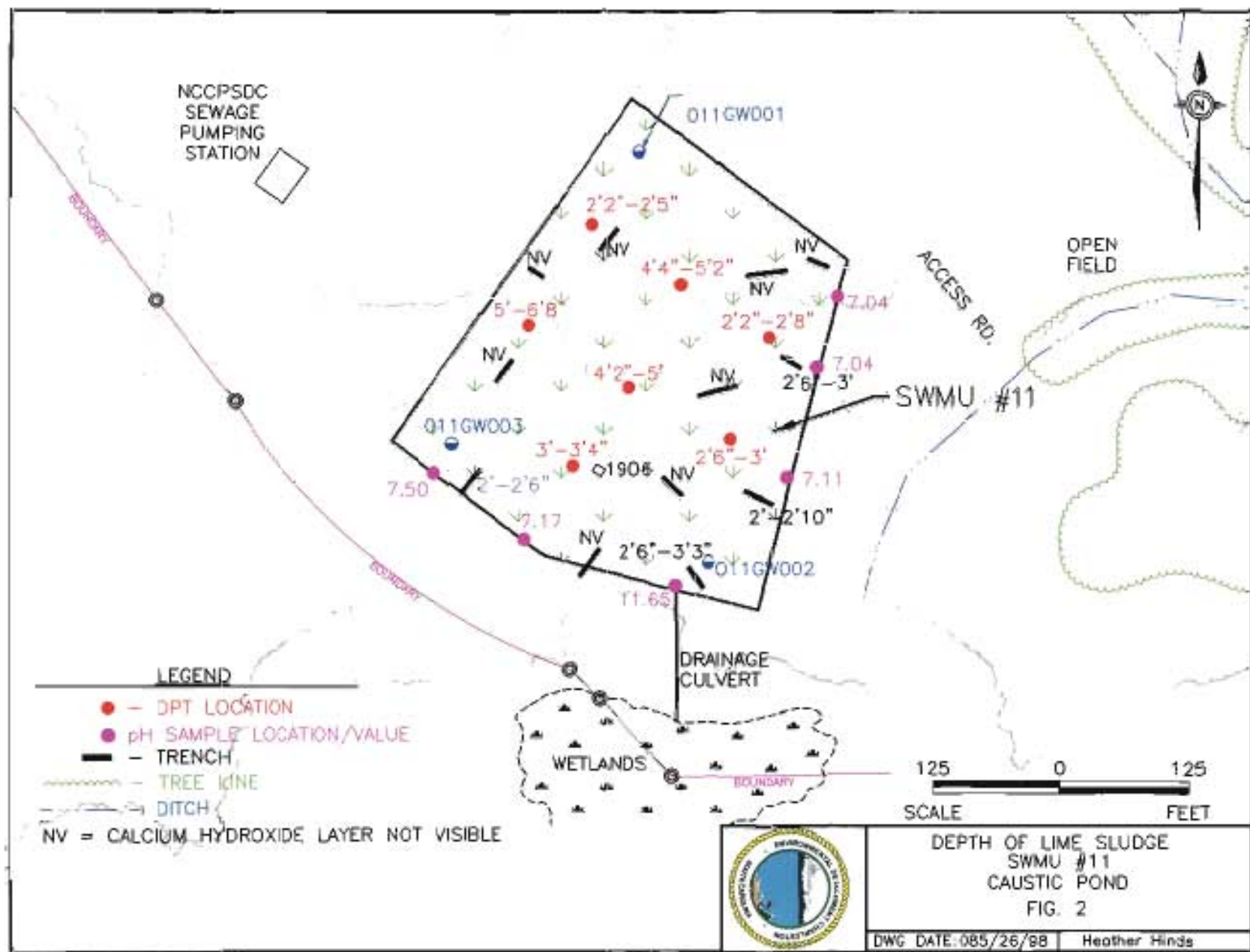
A total of 260.27 cubic yards of non-hazardous calcium hydroxide pesticide contaminated soil was disposed of to a Subtitle D landfill permitted to accept special waste.

Waste Manifests are in Appendix E.

APPENDIX A

FIGURES





APPENDIX B

LETTERS

OF

RECORD



2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
Douglas E. Bryant

BOARD:
John H. Burris
Chairman

William M. Hull Jr., MD
Vice Chairman

Roger Leaks, Jr.
Secretary

Mark B. Kent

Cyndi C. Mosteller

Brian K. Smith

Rodney L. Grandy

September 21, 1998

Henry Shepard II, P.E.
Caretaker Site Office
NAVFACENGCOM, Southern Division
P. O. Box 190010
North Charleston, SC 29419-9010

Re: Interim Measures Work Plan
for SWMU 11(Caustic Pond)
Dated September 1, 1998
Charleston Naval Complex
SCO 170 022 560

Dear Mr. Shepard:

The South Carolina Department of Health and Environmental Control (Department) has reviewed the above referenced Interim Measures Work Plan according to applicable State and Federal Regulations, and the Charleston Naval Complex Hazardous Waste Permit, effective September 17, 1998. Based on this review and in accordance with Permit condition II.F.1(c) the Department has generated comments that do not preclude the Department from approving the Interim Measures work plan for SWMU 11. The attached comments should be considered during the implementation of work at SWMU 11 and included/considered during the preparation of the IM Report. Based on the above, the Department approves the SWMU 11 IM Work Plan for implementation. The start date for the implementation of work should be considered as September 25, 1998. Thus, in accordance with the schedule included in the work plan the IM Report should be received no later than February 19, 1999.

Should you have any questions regarding this issue, please contact Johnny Tapia at (803) 896-4179 or Paul Bergstrand at (803) 896-4016.

Sincerely,


Joan Hartley, Manager
Corrective Action Engineering Section
Bureau of Land & Waste Management

Attachments

cc: Paul Bergstrand, Hydrogeology
Rick Richter, Trident EQC
Tony Hunt, SOUTHNAVFACENGCOM
Reece Batten, SOUTHNAVFACENGCOM
Dan Spariosu, EPA Region IV

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Post-It™ brand fax transmittal memo 7671		# of pages >	
To	JED HEAMES	From	REECE BATTEN
Co.	DETACHMENT	Co.	SOUTH DIV
Dept.	743-6777x123	Phone #	820-5578
Fax #	743-941370174	Fax #	820-5563

INTERIM MEASURES WORK PLAN
SWMU 11 (CAUSTIC POND)

Dated September 1, 1998

COMMENTS:

1. Preliminary sampling results indicate that the calcium hydroxide sludge to be removed could have a high Ph value, that could make it characteristically hazardous. Therefore the sludge removed should be characterized in accordance with R.61-79.261.22 previous to disposal. These results should be reported in the IM Report.
2. The work plan indicated the intention to conduct monthly inspections for a six month period. The IM Report should include a schedule for these planned inspections.
3. The Environmental Detachment should prepare IM work plans and reports in accordance with Permit condition II.F. of the RCRA permit effective September 17, 1998.

APPENDIX C

SAMPLING

DOCUMENTATION

APPENDIX A PH CALIBRATION & ANALYSIS FORM

OPERATION CHECKLIST

pH meter serial number: 005865

- | | |
|---|------------|
| 1. No structural damage observed on meter/probe | <u>yes</u> |
| 2. Probe filled with 3N KCL | <u>yes</u> |
| 3. Probe rinsed with reagent grade water | <u>yes</u> |
| 4. Buffer solutions within expiration date | <u>yes</u> |
| 5. Check for LOW BATTERY prompt on meter | <u>yes</u> |

CALIBRATION

pH of reagent grade (De-ionized) water 6.51
Slope (SLP) reading of pH meter (percent) 101.2%

	TRUE VALUE AT 25°C	OBSERVED VALUE	TEMP °C
pH 4 BUFFER	<u>NA</u>	<u>NA</u>	<u>NA</u>
pH 7 BUFFER	<u>7.00</u>	<u>7.01</u>	<u>20.8°C</u>
pH 10 BUFFER	<u>10.00</u>	<u>10.02</u>	<u>20.8°C</u>

SAMPLE ANALYSIS

LAB NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLE LOCATION	pH 1 MEASURE	pH 2 MEASURE	pH AVERAGE
98FL0007-1	4-24-98	1430	SWMU-11 STANDING	11.65	11.65	11.65
98FL0007-2	4-24-98	1430	SWMU-11 ACTIVATED	12.05	12.06	12.05

REMARKS: pH above 10.00 STANDARD For Info only

ANALYST: John S. Miller DATE: 4/24/98 TIME: 1510

REVIEWED BY: W.R. H. Smith DATE: 4/24/98 TIME: 1515
LAB DIRECTOR/SAMPLE COORDINATOR

APPENDIX A PH CALIBRATION & ANALYSIS FORM

OPERATION CHECKLIST

pH meter serial number: 005865

1. No structural damage observed on meter/probe yes
2. Probe filled with 3N KCL yes
3. Probe rinsed with reagent grade water yes
4. Buffer solutions within expiration date yes
5. Check for LOW BATTERY prompt on meter yes

CALIBRATION

pH of reagent grade (De-ionized) water 6.02
Slope (SLP) reading of pH meter (percent) 100.2%

	TRUE VALUE AT 25°C	OBSERVED VALUE	TEMP °C
pH 4 BUFFER	<u>NA</u>	<u>NA</u>	<u>NA</u>
pH 7 BUFFER	<u>7.00</u>	<u>7.00</u>	<u>24.2°C</u>
pH 10 BUFFER	<u>10.00</u>	<u>10.02</u>	<u>24.5°C</u>

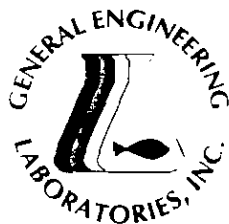
SAMPLE ANALYSIS

LAB NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLE LOCATION	pH 1 MEASURE	pH 2 MEASURE	pH AVERAGE
98FL0008-1	4/29/98	0930	Swmu-11 #1	7.02	7.03	7.02
98FL0008-2	4/29/98	0930	Swmu-11 #2	7.11	7.11	7.11
98FL0008-3	4/29/98	0930	Swmu-11 #3	7.05	7.04	7.04
98FL0008-4	4/29/98	0940	Swmu-11 #4	7.18	7.16	7.17
98FL0008-5	4/29/98	0940	Swmu-11 #5	7.50	7.50	7.50

REMARKS: For information only.

ANALYST: Jed B. M. Gen DATE: 4/29/98 TIME: 1000

REVIEWED BY: W. R. Hines Jr. DATE: 4/29/98 TIME: 1015
LAB DIRECTOR/SAMPLE COORDINATOR



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers
Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: June 02, 1998

Page 1 of 1

Sample ID : SPORT0706-1
Lab ID : 9806027-01
Matrix : Soil
Date Collected : 06/01/98
Date Received : 06/01/98
Priority : Urgent
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
<i>pH - 2 items</i>											
pH		12.0	0.0100	0.100	SU	1.0	LIB	06/01/98	1747	123280	
pH Temperature		25.5	0.100	0.100	C	1.0					

M = Method	Method-Description
M 1	EPA 9045

Notes:

The qualifiers in this report are defined as follows:

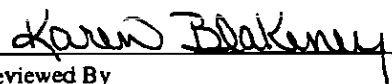
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

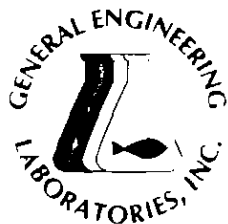
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.


Reviewed By





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: June 02, 1998

Page 1 of 1

Sample ID : SPORT0706-2
Lab ID : 9806027-02
Matrix : Soil
Date Collected : 06/01/98
Date Received : 06/01/98
Priority : Urgent
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
<i>pH - 2 items</i>											
pH		7.12	0.0100	0.100	SU	1.0	LIB	06/01/98	1752	123280	
pH Temperature		25.1	0.100	0.100	C	1.0					

M = Method	Method-Description
M 1	EPA 9045

Notes:

The qualifiers in this report are defined as follows:

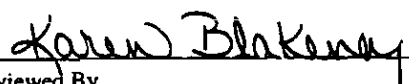
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed
in accordance with General Engineering Laboratories
standard operating procedures. Please direct
any questions to your Project Manager, Karen Blakeney at (803) 769-7386.


Reviewed By



QC Summary Report

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Lab. Sample ID: 9806027%

Report Date: June 02, 1998

Page 1 of 1

Sample/Parameter	Type	Batch	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Analyst	Date	Time
General Chemistry													
QC511621	9806027-02DUP	123280											
pH				7.12		7.12		0.00			LIB	06/01/98	1753
pH Temperature				25.1		25.1		0.00					
QC511622	LCS	123280											
pH						6.93			99.0	(98.0 - 102.)	LIB	06/01/98	1754

Notes:

The qualifiers in this report are defined as follows:

J indicates presence of analyte < RL (Report Limit)

U indicates presence of analyte < DL (Detect Limit)

va indicates that spike recovery limits do not apply when
sample concentration exceeds spike conc by a factor of 4 or more



NF, 22.00 197

General Engineering
2040 Savage Road
Charleston, South Carolina 29417
P.O. Box 30712
Charleston, South Carolina 29417
(803) 556-8171

CHAIN OF CUSTODY RECORD

Page 1 of 1

9806027

[illegible]

White = sample collector Yellow = file Pink = with report

APPENDIX D

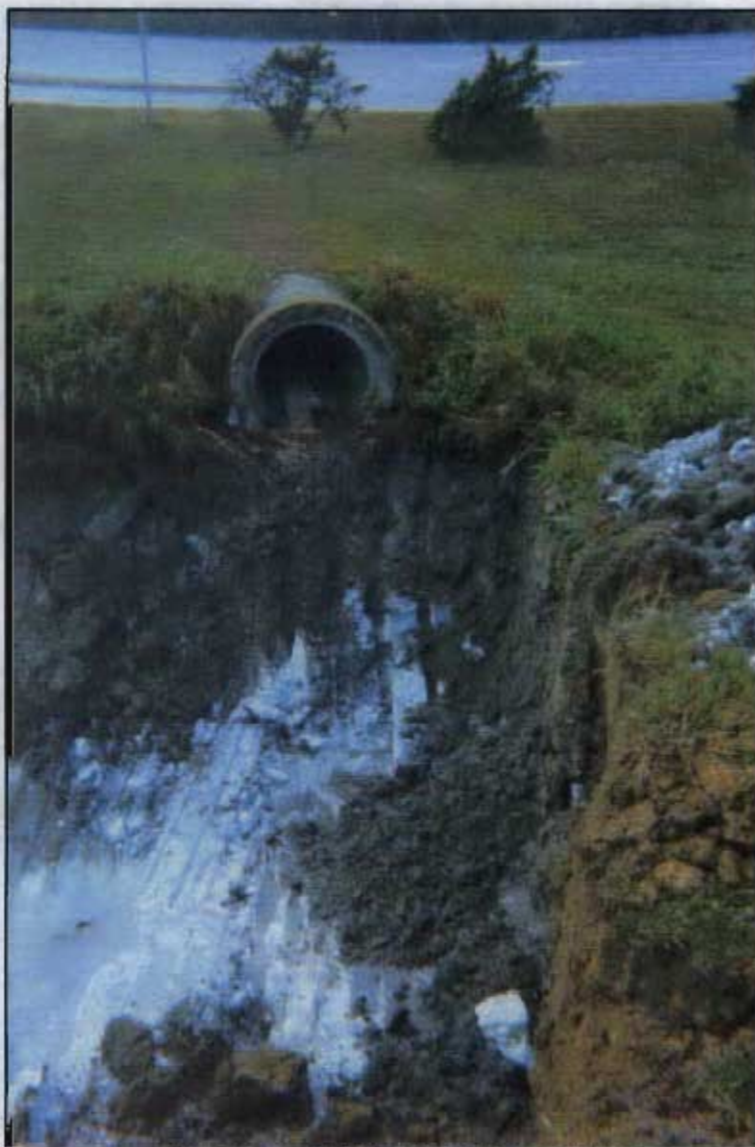
PHOTOGRAPHS



SWMU II - START OF EXCAVATION



SWMU II DURING EXCAVATION



SWMU 11 - EXCAVATION AT 5 FEET



SWMU 11 - DURING FILLING OF EXCAVATION



SWMU 11 - DITCH AND CULVERT AFTER COMPLETION OF INTERIM MEASURE



SWMU 11 - AFTER COMPLETION OF INTERIM MEASURE



SWMU 11 - AFTER COMPLETION OF INTERIM MEASURE

APPENDIX E

SHIPPING MANIFEST



OAKRIDGE LANDFILL
A WASTE MANAGEMENT COMPANY

SPECIAL WASTE APPROVAL NOTIFICATION

DATE: 21 NOVEMBER 1998

CUSTOMER: ENVIRONMENTAL DETACHMENT CHARLESTON

CONTACT: HEATHER HINES

GENERATOR: ENVIRONMENTAL DETACHMENT CHARLESTON

CONTACT:

DESCRIPTION: CALCIUM HYDROXIDE CONTAMINATED SOIL

The Special Waste Disposal Application you submitted for the Generator referenced above has been approved for a period of 3 months beginning 20 NOVEMBER 1998 for a volume of 200 TONS.

Your approval number is OR 9811015. Please ensure this approval number is on all waste manifests and correspondence regarding this waste stream in order to facilitate proper disposal and documentation. Please sign the manifest and provide a copy to your transporter to accompany each load sent to the landfill for disposal. Your cooperation is appreciated.

Sincerely,

Oakridge Landfill

A handwritten signature in cursive script, appearing to read 'Ronnie L. Culbreth'.

Ronnie L. Culbreth
Special Waste Administrator



OAKRIDGE LANDFILL
A WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFEST

Approval # OR 9811015

Expiration 02/20/99

Generator: ENVIRONMENTAL DETACHMENT CHARLESTON

Account Number: 490-189

Location/Address: SWMU 11 CHARLESTON SC (10)

Tele Number: 843-743-6777, EXT 338

Contact: HEATHER HINES

Generator Signature: Heather A. Hines

***** TO BE COMPLETED BY TRANSPORTER *****

Transporter of Waste: BUTLER WARE TRUCKING

Date: 11-24-98Truck # 26Driver Signature: J. B. Bunker

***** TO BE COMPLETED BY OAKRIDGE LANDFILL *****

Disposal Site: Oakridge Landfill DWP 130

Description of Waste: SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL

Ticket Number: 82678Tonnage: 30.47Received By: W. BunkerDate: 11/24/98



OAKRIDGE LANDFILL
WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFEST

Approval # OR 9811015

Expiration 02/20/99

Generator: ENVIRONMENTAL DETACHMENT CHARLESTON

Account Number: 490-189

Location/Address: SWMU 11

CHARLESTON SC (10)

Tele Number: 843-743-6777 EXT 338

Contact: HEATHER HINES

Generator Signature: Heather A. Hines

***** TO BE COMPLETED BY TRANSPORTER *****

Transporter of Waste: BUTLER WARE TRUCKING

Date: 11-24-98Truck # 35Driver Signature: Michael Hamilton

***** TO BE COMPLETED BY OAKRIDGE LANDFILL *****

Disposal Site: Oakridge Landfill DWP 130

Description of Waste: SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL

Ticket Number: 82084Tonnage: 23.98Received By: W. CarterDate: 11/24/98

**OAKRIDGE LANDFILL**
WASTE MANAGEMENT COMPANY**SPECIAL WASTE MANIFEST****Approval # OR 9811015****Expiration 02/20/99****Generator: ENVIRONMENTAL DETACHMENT CHARLESTON****Account Number: 490-189****Location/Address: SWMU 11****CHARLESTON SC (10)****Tele Number: 843-743-6777, EXT 338****Contact: HEATHER HINES****Generator Signature:**Heather A. Hines******* TO BE COMPLETED BY TRANSPORTER *********Transporter of Waste: BUTLER WARE TRUCKING****Date:**11.24.98**Truck #**16**Driver Signature:**B. Ware******* TO BE COMPLETED BY OAKRIDGE LANDFILL *********Disposal Site: Oakridge Landfill DWP 130****Description of Waste: SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL****Ticket Number:**82668**Tonnage:**28.55**Received By:**W. Carter**Date:**11/24/98



OAKRIDGE LANDFILL
A WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFESTApproval # **OR 9811015**Expiration **02/20/99**Generator: **ENVIRONMENTAL DETACHMENT CHARLESTON**Account Number: **490-189**Location/Address: **SWMU** 11**CHARLESTON SC (10)**Tele Number: **843-743-6777, EXT 338**Contact: **HEATHER HINES**Generator Signature: Heather C. Hines

***** TO BE COMPLETED BY TRANSPORTER *****

Transporter of Waste: **BUTLER WARE TRUCKING**Date: 11-24-98Truck # 35Driver Signature: Mejia Hamilton

***** TO BE COMPLETED BY OAKRIDGE LANDFILL *****

Disposal Site: **Oakridge Landfill DWP 130**Description of Waste: **SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL**Ticket Number: 82656Tonnage: 28.83Received By: CarterDate: 11/24/98



OAKRIDGE LANDFILL
a WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFESTApproval # **OR 9811015**Expiration **02/20/99**Generator: **ENVIRONMENTAL DETACHMENT CHARLESTON**Account Number: **490-189**Location/Address: **SWMU 11****CHARLESTON SC (10)**Tele Number: **843-743-6777, EXT 338**Contact: **HEATHER HINES**Generator Signature: Heather A. Hines

***** TO BE COMPLETED BY TRANSPORTER *****

Transporter of Waste: **BUTLER WARE TRUCKING**Date: 11-24-98Truck # 26Driver Signature: J. Butler

***** TO BE COMPLETED BY OAKRIDGE LANDFILL *****

Disposal Site: **Oakridge Landfill DWP 130**Description of Waste: **SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL**Ticket Number: 82649Tonnage: 32.26Received By: U. CarterDate: 11/24/98



OAKRIDGE LANDFILL
WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFEST

Approval # OR 9811015

Expiration 02/20/99

Generator: ENVIRONMENTAL DETACHMENT CHARLESTON

Account Number: 490-189

Location/Address: SWMU 11

CHARLESTON SC (10)

Tele Number: 843-743-6777/EXT 338

Contact: HEATHER HINES

Generator Signature: Heather A. Hines

***** TO BE COMPLETED BY TRANSPORTER *****

Transporter of Waste: BUTLER WARE TRUCKING

Date: 11/24/98Truck # 16Driver Signature: Benny

***** TO BE COMPLETED BY OAKRIDGE LANDFILL *****

Disposal Site: Oakridge Landfill DWP 130

Description of Waste: SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL

Ticket Number: 82635Tonnage: 26.33Received By: NCarterDate: 11/24/98



OAKRIDGE LANDFILL
WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFEST

Approval # OR 9811015

Expiration 02/20/99

Generator: ENVIRONMENTAL DETACHMENT CHARLESTON

Account Number: 490-189

Location/Address: SWMU 11

CHARLESTON SC (10)

Tele Number: 843-743-6777, EXT 338

Contact: HEATHER HINES

Generator Signature: Heather G. Hines

***** TO BE COMPLETED BY TRANSPORTER *****

Transporter of Waste: BUTLER WARE TRUCKING

Date: 11, 24,Truck # 16Driver Signature: B. Ware

***** TO BE COMPLETED BY OAKRIDGE LANDFILL *****

Disposal Site: Oakridge Landfill DWP 130

Description of Waste: SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL

Ticket Number: 82600Tonnage: 29.05Received By: NCarterDate: 11/24/98



OAKRIDGE LANDFILL
A WASTE MANAGEMENT COMPANY

SPECIAL WASTE MANIFEST

Approval # OR 9811015

Expiration 02/20/99

Generator: ENVIRONMENTAL DETACHMENT CHARLESTON

Account Number: 490-189

Location/Address: SWMU 11 CHARLESTON SC (10)

Tele Number: 843-743-6777, EXT 338

Contact: HEATHER HINES

Generator Signature: Heather A. Hines

***** TO BE COMPLETED BY TRANSPORTER *****

Transporter of Waste: BUTLER WARE TRUCKING

Date: 11-24-98Truck # 35Driver Signature: McJen Hamilton

***** TO BE COMPLETED BY OAKRIDGE LANDFILL *****

Disposal Site: Oakridge Landfill DWP 130

Description of Waste: SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL

Ticket Number: 826004Tonnage: 24.91Received By: Y GarterDate: 11/24/98

**OAKRIDGE LANDFILL**
A WASTE MANAGEMENT COMPANY**SPECIAL WASTE MANIFEST**

Approval # OR 9811015

Expiration 02/20/99

Generator: ENVIRONMENTAL DETACHMENT CHARLESTON

Account Number: 490-189

Location/Address: SWMU 11

CHARLESTON SC (10)

Tele Number: 843-743-6777, EXT 338

Contact: HEATHER HINES

Generator Signature: Heather A. Hines

***** TO BE COMPLETED BY TRANSPORTER *****

Transporter of Waste: BUTLER WARE TRUCKING

Date: 11-29Truck # 26Driver Signature: James B. Bryant

***** TO BE COMPLETED BY OAKRIDGE LANDFILL *****

Disposal Site: Oakridge Landfill DWP 130

Description of Waste: SOL / CALCIUM HYDROXIDE CONTAMINATED SOIL

Ticket Number: 82607Tonnage: 30.88Received By: YncartenDate: 11/24/98